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on TROPICOS:
names, type

Undescribed plants from Guatemala and other Central
American Republics. XVI.

JOHN DONNELL SMITH.

WITH PLATE XXXVI.

Passiflora porphyretica Mast. — (§ DECALOBA). Scandens
cirrata, ramulis teretibus setis longiusculis patentibus fulvidis
dense vestitis; foliis 5–6^{cm} long. × 3–4^{cm} lat., superioribus
gradatim minoribus, crassiusculis superne scabriusculis, infra
molliter setuloso-tomentosis, subrotundis palmatim trinerviis,
basi breviter cordatis, lobis rotundatis divergentibus ultra
medium trilobatis lobis obtusis integris, medio parum lon-
giore; petiolis 25^{mm} long. eglandulosis; stipulis 8–10^{mm} long.
oblique ovatis acutis violaceo-purpureis; floribus numerosis
secus apices ramulorum racemoso-fasciculatis; pedicellis 2^{cm};
bracteis floribus approximatis circa 1^{cm} long. ovato-oblongis
acutis petaloideis violaceo-purpureis; floribus diametro 2–3^{cm}
tubo lato expanso; sepalis oblongis 3-nerviis, petalis conformi-
bus paulo brevioribus; corona fauciali univel biseriali filis
crassiusculis purpureo-maculatis petalis vix brevioribus; corona
media membranacea dimidio brevior erecta tubulata plicata
margine anguste inflexa; corona infra mediana annulari cras-
siuscula; gynandrophoro gracili glabro; ovario ovoideo setu-
loso; stylis gracilibus. — *Plate XXXVI.*

Species ob stipulas bracteasque coloratas, necnon ob inflor-
escentiam racemoso-fasciculatum commemorabilis.

✓ Sunny places in forest near Jutiapa, Depart. Jutiapa, Guat.,
alt. 1,200^{ft}, Apr. 1894, Heyde & Lux, no. 6,334.

✓ **Begonia convallariodora** C. DC.; erecta glabra foliis
modice petiolatis ovato-acuminatis basi inaequali utrinque ro-
tundatis margine subundulatis serrulatisque denticulis breviter
subulatis, nervis secundariis utrinque 3–4 e petiolo divaricant-
ibus et 4–5 e nervo centrali penninervatim adscendentibus,
inflorescentia cum pedunculo folium fere aequante multiflora,
fl. masc. sepalis 2 rotundatis integris petalis 0–1–2 quam se-
pala multo minoribus staminibus liberis numerosis antheris
oblongis cum filamentis fere aequilongis, fl. fem. 2-lobi lobis
rotundatis integris stilibus 3 bifidis laciniis spiraliter papilli-

feris ovario globoso-elliptico 3-alato ala maxima semilunari.

Caulis in sicco inferne circiter 3^{mm} crassus, fasciculis intramedullaribus nullis. Folia alterna, limbi ad 9^{cm} longi et 5^{cm} lati in sicco membranacei stomatibus ellipticis glomerulatis cystolithis nullis. Petioli circiter 12^{mm} longi. Inflorescentiæ axillaris in vivo niveæ pedunculus circiter 4^{cm} longus ramique ut videtur 2-3-dichotomi, bracteolæ cito deciduæ, flores in vivo Convallariæ odorem fragrantés. Floris masculi sepala circiter 5^{mm} longa, antheræ rimis longitudinalibus dehiscentes. Flores feminei in specimine adhuc juveniles. Capsula ignota.

Species verisimiliter sectionis *Rossmanniæ* A. DC.

¶Pansamalá forest, Depart. Alta Verapaz, Guat., alt. 3,800^{ft}, Jan. 1886, von Türckheim, no. 840.

Begonia Cooperi C. DC.; foliis breviter petiolatis oblongo-ellipticis uno latere paulo latioribus basi ima parum inaequali acutis subduplicato-serratis, dentibus apice subulatis, supra glabris subtus ad nervos pilosis nervis secundariis rectis utrinque fere 15, inflorescentiæ multifloræ cum pedunculo folium parum superantis ramulis pluries dichotomis cum pedunculo hirsutis, fl. masc. sepalis 2 rotundatis integris glabris antheris ellipticis quam filamenta parum brevioribus, fl. fem. lobis 2 rotundatis integris glabris ovario glabro stilis 3 caducis 2-fidis basi connatis lobis laciniosis spiraliter papilliferis, capsula glabra alis 2 marginiformibus aequalibus tertia multo majore transverse elongata obtusa.

Rami lignosi hirsuti in sicco rubiginosi ad 5^{mm} crassi fasciculis intramedullaribus nullis. Folia alterna penninervia, limbi ad 11^{cm} longi ad 5.5^{cm} lati in sicco firmo-membranacei nervis secundariis cum centrali angulum acutum superne formantibus stomatibus glomerulatis ellipticis cystolithis nullis. Petioli ad 1^{cm} longi. Inflorescentia axillaris pedunculo circiter 8^{cm} longo. Floris masculi petala 0, stamina numerosa libera, antheræ glabræ rimis longitudinalibus dehiscentes connectivo ultra loculos breviter producto. Capsula basi subacuta ad 7^{mm} longa, ala maxima 12^{mm} longa 6^{mm} lata in sicco membranacea pellucida, placentæ 2-fidæ lamellis utrinque ovuliferis.

Species sectionis *Ruizopavoniæ* A. DC. *B. carpinifoliæ* Lieb. proxima ramis hirsutis limbis basi acutis nervorum numero aliisque notis ab ea discrepans, foliorum forma *Corylum feroce* referens.

¶Cartago, Prov. Cartago, Costa Rica, alt. 4,250^{ft}, Mch. 1888, Juan J. Cooper, no. 5,778.

✓ **Begonia Estrellensis** C. DC.; glabra foliis parvis breviter petiolatis ovato-ellipticis basi subæquali obtusis apice acute acuminatis apicem versus serratis penninerviis nervis lateralibus adscendentibus utrinque 3-4, inflorescentia folium parum superante multiflora pauciramosaque floribus parvis, fl. masc. sepalis 2 cum petalis 2 quam sepala multum brevioribus ovatis integrisque staminibus liberis numerosis antheris oblongis filamenta brevissima multum superantibus connectivo ultra loculos producto, fl. fem. 2-3-lobi lobis ovato-ellipticis integris quorum interno multo minore vel deficiente, stilis 3 basi breviter connatis 2-fidis laciniis tortis spiraliter papilliferis, capsulæ ala maxima transverse et subadscendente subarcuata apiceque subacuta.

Ramuli lignosi nodosi circiter 2^{mm} crassi fasciculis intramedullaribus nullis. Folia alterna, limbi in sicco rigiduli 6.5^{cm} longi 2.5^{cm} lati stomatibus ellipticis 2-5-glomeratis cystolithis nullis. Petioli 5^{mm} longi. Inflorescentia axillaris ex apice pedunculi circiter 2.5^{cm} longi axi unifloro terminati utroque latere circiter ter dichotoma, bracteis bracteolisque cito caducis ellipticis integris. Floris masculi sepala 5^{mm} longa, antheræ rimis longitudinalibus dehiscentes, connectivus apice in sicco rubescens. Capsulæ ad lobos circiter 4^{mm} longæ ala maxima vix 3^{mm} lata aliis marginiformibus.

✓ Estrella, Prov. Cartago, Costa Rica, alt. 4,400^{ft}, Apr. 1888, Cooper, no. 5,779.

BEGONIA GUYANENSIS A. DC., var. **glaberrima** C. DC.; foliis exceptis supra parcissime pilosulis glaberrima.

✓ Jiménez, Llanos de Santa Clara, Comarca de Limón, Costa Rica, alt. 650^{ft}, Apr. 1894. J. D. S., no. 4,814.

✓ **Begonia Heydei** C. DC.; erecta glabra foliis modice petiolatis ovato-lanceolatis basi valde inaequali uno latere auriculatis apice acute acuminatis margine remote et parce denticulatis nervis 7 e petiolo divaricantibus quorum centrali nervulos utrinque 2-3 emittente, inflorescentia pauciflora cum pedunculo quam folium brevior, fl. masc. sepalis 2 cum petalis 2 quam sepala angustioribus ellipticis integris staminibus numerosis antheris ellipticis quam filamenta brevioribus, fl. fem. 3-lobi lobis ellipticis integris stilis 2-fidis basi connatis infra lacinias membranaceo-dilatatis laciniis membranaceis spiraliter papilliferis ovario brevi supra alas acuminato inferne attenuato alis e basi lata lineari-oblongis quarum maxima quam aliæ

obtusæ parum longiore apice arcuato-acuta, capsula matura rotundato-rhomboidali alis angustis.

Caulis in sicco ad 3^{mm} crassus fasciculis intramedullaribus nullis. Folia alterna, limbi 10^{cm} longi 32^{mm} lati in sicco membranacei subpellucidi, stomatibus sparsis ellipticis. Petioli 2.5^{cm} longi. Inflorescentiæ axillaris ut videtur trifloræ pedunculus ad 2^{cm} longus, flores apice pedicellorum bracteolis 2 ellipticis integris fulti. Floris masculi sepala 12^{mm} longa, stamina apice columnæ inserta, antheræ rimis longitudinalibus dehiscentes. Floris feminei petala vix 1^{cm} longa, stili caduci, ovarium 3-loculare, placentæ 2-fidæ lamellis utrinque ovuliferis. Capsula matura circiter 12^{mm} longa lataque.

✓San Miguel Uspantán, Depart. Quiché, Guat., alt. 8,000^{ft}, Apr. 1892, Heyde & Lux, no. 3,094.

✓**Begonia Luxii** C. DC.; foliis mediocribus modice petiolatis transverse ovato-acuminatis basi inaequali cordatis margine serrulatis supra ad paginam subtusque ad nervos pilosulis palmati-6-nerviis, petiolo glabro apice imo subtus fimbriato, inflorescentia florente pauciflora cum pedunculo quam folium brevior fructifera eum paulo superante bracteis caducis ellipticis, fl. masc. sepalis 2 rotundatis cum petalis 2 obovatis integris glabris antheris ellipticis quam filamenta brevioribus, fl. fem. 3-lobi lobis exterioribus rotundatis cum interno ellipticis integris glabris, capsula oblongo-elliptica glabra 2-loculari 2-3-alata alis subaequalibus quarum maxima transverse parum elongata tertia minima vel nulla.

Suffrutex circiter 30^{cm} altus radice fibrosa caule lignoso adulto fistuloso ad nodos tumido inferne inter nodos 3^{mm} crasso. Caulis fasciculi intramedullares in nodis nonnulli. Folia alterna, limbi in sicco tenuiter membranacei pellucidi ad 11^{cm} longi ad 5^{cm} lati stomatibus ellipticis sparsis. Petioli ad 5^{cm} longi in sicco tenues. Inflorescentiæ fructiferæ pedunculus 5^{cm} longus. Floris masculi stamina libera numerosa antheris glabris rimis longitudinalibus dehiscentibus. Floris feminei bracteolæ ovatæ caducæ, stili 3 caduci liberi 2-fidi laciniis spiraliter papilliferis, ovarium 3-loculare, placentæ 2-partitæ lamellis utrinque ovuliferis. Capsula abortu 2-locularis.

✓San Miguel Uspantán, Depart. Quiché, Guat., alt. 6,000^{ft}, Apr. 1892, Heyde & Lux, no. 3,095.—Volcan de Agua, Depart. Zacatepéquez, Guat., alt. 7,000^{ft}, June 1892, Shannon, no. 3,627.

✓**Begonia Thiemei** C. DC.; glabra foliis modice petiolatis oblongis inaequilateris subobliquis margine remote denticulatis in sicco tenuissime membranaceis pellucidis penninerviis nervis lateralibus utrinque circiter 8 tenuissimis subadscendentibus, fl. masc. sepalis 2 obovatis integris petalis 0 antheris filamenta duplo superantibus spathulato-oblongis, fl. fem. 2-lobi lobis reniformi-rotundatis integris stilis 3 liberis 2-fidis laciniis spiraliter papilliferis tortisque ovario 3-loculari, capsula transverse longe alata ala maxima ovata obtusa.

Caulis herbaceus. Folia conferta alterna ad 16^{cm} longa ad 6^{cm} lata in sicco tenuissime membranacea stomatibus sparsis raris magnis ellipticis. Sepala 1^{cm} longa. Capsula ellipticalis membranaceis quarum maxima 16^{mm} intermedia 5^{mm} longa. Placentæ 2-partitæ lamellis utrinque ovuliferis.

✓San Pedro Sula, Depart. S. Bárbara, Honduras, alt. 800^{ft}, Mch. 1888, Dr. C. Thieme, no. 5,240.

✓**Begonia trichosepala** C. DC.; caule repente haud dense piloso e nodis radicante, foliis longe petiolatis ovato-acuminatis basi cordatis margine remote denticulatis supra glabris subtus ad nervos sparse pilosis penninerviis nervis secundariis alternis adscendentibus utrinque 5, inflorescentia pauciflora florente cum pedunculo quam folium brevior, fl. masc. sepalis 2 rotundatis extus in medio longe fimbriatis petalis 2 quam sepala multo minoribus ellipticis glabris integris antheris oblongis obtusis quam filamenta pluries longioribus, fl. fem. stilis caducis capsula glabra 3-alata ala maxima quam aliæ parum longiore transverse elongata obtusa.

Caulis in sicco subcoriaceus 3^{mm} crassus e nodis radiceas fibras emittens fasciculis intramedullaribus nullis. Folia alterna, limbi circiter 10^{cm} longi 5^{cm} lati, in sicco tenuiter membranacei subpellucidi stomatibus ellipticis sparsis. Petioli 6.5^{cm} longi. Inflorescentiæ axillaris fructiferæ pedunculus ad 9^{cm} longus pilosus, bracteæ ellipticæ glabræ caducæ, florum pedicelli adpresse et longe pilosi. Stamina numerosa libera toro convexo inserta, antheræ glabræ rimis longitudinalibus dehiscentes connectivo ultra loculos subproducto. Capsula 3-locularis circiter 1^{cm} longa, placentæ 2-fidæ lamellis utrinque ovuliferis.

✓Pansamalá, Depart. Alta Verapaz, Guat., alt. 3,800^{ft}, Jan. 1887, von Türckheim, no. 225.

✓**Begonia Tuerckheimii** C. DC.; foliis magnis longe petiolatis ample reniformibus margine undulatis palmati-9-nerviis

utrinque cum petiolis fulvo-tomentosis dein supra glabratis, pedunculo petiolis longiore cum inflorescentiæ pluries dichotomæ ramulis fulvo-tomentosis, fl. masc. sepalis 2 ellipticis integris extus rufo-pilosis, antheris subobovato-ellipticis quam filamenta usque ad duplo brevioribus connectivo ultra loculos obtuse producto, fl. fem. lobis 4 obovato-ellipticis integris extus parce pilosis, capsula 3-alata alisque pilosis maxima transverse et recte producta caeteris subaequalibus parum latiore.

Folia alterna, limbi in sicco subcoriacei opaci 11^{cm} longi 20^{cm} lati. Petioli circiter 22^{cm} longi. Floris masculi petala 0, stamina toro subconvexo inserta antheris glabris rimis longitudinalibus apice subarcuatis dehiscentibus. Floris feminei lobi circiter 7^{mm} longi 3^{mm} lati. Stili 3 persistentes basi connati apice auriculato-bilobi lobis extus papilliferis, ovarium ellipticum dense pilosulum 3-loculare, placentæ 2-fidæ lamellis utrinque ovuliferis. Capsulæ maturæ ad 11^{mm} longæ ala maxima 6^{mm} lata.

Species *B. pinetorum* A. DC. proxima.

Sesisp, Depart. Alta Verapaz, Guat., alt. 3,500^{ft}, Febr. 1886, von Türckheim, no. 885.

Macrocepis pleistantha Donnell Smith.—Setis longis patentibus simul et setulis minimis brunneo-vestita. Folia obovata, sin minus rhomboidea, acuminata, basis cordatæ lobis incumbentibus. Pedicelli plurimi pedunculum aequantes, floribus ebracteatis in umbellas globosas densas petiolos vix superantes congestis. Sepala ovata acuminata corollæ fauces superantia, sinu unoquoque glandula instructo. Corollæ extrorsum glabræ et pallidæ tubus ovoideus, limbi supra papilloso et in sicco fusci lobis rotundis. Coronæ squamæ deltoideæ in apice incurvo truncatæ ad basim connatæ. Retinacula oblongo-ellipsoidea, caudiculis subnullis.

Stems stout, their diameters exceeded by the longer hairs, younger parts villose. Leaves 6-9 × 4-5ⁱⁿ, pale beneath, each surface with short, scattered hairs, nerves and margins pilose. Petioles 1¹/₄-1¹/₂ⁱⁿ long. Peduncles stout, ebracteate. Pedicels 4-6^l long, equaling linear-lanceolate bractlets. Umbels about 1¹/₂ⁱⁿ in diameter. Sepals nearly free, 4³/₄ × 3¹/₂^l, reticulately veined, smooth within; glands minute, cylindrical. Tube of corolla 3^l high; limb spreading, 9^l in diameter, lobed to the middle. Gynostegium a third shorter than tube of corolla, the staminal scales closing the throat, anthers nearly

destitute of a terminal membrane. Pollinia obovate-ellipsoid, compressed, vertically pendulous. Ovaries smooth, ovoid, attenuately produced, carinate, stigma flat. Follicles not seen.

✓Moist grounds along river near Mataquescuintla, Depart. S. Rosa, Guat., alt. 4,000^{ft}, Mch. 1894, Heyde & Lux, no. 6,350.

✓**Acalypha Lotsii** Donnell Smith.—(§ LEPTOPODÆ Muell. Arg.) Folia ovato-lanceolata in caudam linearem integram producta, basi cordata 5-7-nervia. Spicæ utriusque sexus in ramis non constanter sitæ; spicæ masculinæ inferne laxibracteatae basi bracteis singulis femininis interdum praeditæ, floribus 4-8-nis; spicarum feminarum bracteæ 2-6 dissitæ nonnunquam oppositæ, florentes fere partitæ in segmenta singula terminalia reliquis majora productæ, fructiferæ auctæ laciniis 7-11 elongato-triangularibus usque ad medium inaequaliter incisæ. Calyx 5-partitus. Styli glabri laciniis filiformibus tum pinnato-tum furcato-multifidi.

Shrub 9-12^{ft} high, branches virgate, petioles, nerves and young twigs cano-velutinous, otherwise glabrate. Stipules setaceous, 3-5^l long, persistent. Petioles 4-10^l long. Leaves 2½-3¼ⁱⁿ × 11-13^l, serrated, the interior pair of basal nerves nearly half as long as midrib. Male spikes slender, pubescent, with their one fourth as long peduncle added 1½-2½ⁱⁿ long; calyx 4-partite, stamens 8. Female spikes glabrous, chiefly twice exceeded by the capillary (1-2ⁱⁿ long) peduncle; bracts 1-flowered, in fruit 4-5^l in diameter; segments of calyx ovate, acute, ciliate, divisions of style 8-22; capsules cano-pilose, seeds scarcely punctulate.—Indicated as a new species by Dr. John Lotsy, but the time for its description failed him before leaving the Johns Hopkins University for his post as Subdirector of the Botanical Gardens at Buitenzorg, Java. Closely related to *A. leptopoda* Muell. Arg. *ex char.*

✓Pansamalá, Depart. Alta Verapaz, Guat., alt. 3,800^{ft}, May 1887, von Türckheim, no. 1,242.—Rio Ocosito, Depart. Quezaltenango, Guat., alt. 250^{ft}, Apr. 1892, J. D. S., no. 2,615.—Azagualpa, Depart. S. Rosa, Guat., alt. 2,000^{ft}, June 1892, Heyde & Lux, no. 3,475.—Jumaytepeque, Depart. S. Rosa, Guat., alt. 3,000^{ft}, Sept. 1892, Heyde & Lux, no. 3,839.

✓**Asplenium Donnell-Smithii** H. Christ; fronde valde elongata glabra obscure viridi 45^{cm} longa 8-10^{cm} lata, numerosis (30 quoque latere vel pluribus) pinnis alternis instructa; stipite obscure castaneo laevi; pinnis brevissime, ne vix quidem, petiolatis basi inferiori sensim truncatis, basi su-

periori angulo recto abruptis vel moderate auriculatis 6^{cm} longis basi 8^{mm} ad 1^{cm} latis falcatis horizontaliter patentibus, simpliciter, ad basin rarius furcato-serratis, serratura valde regulari et parallela, dentibus 2^{mm} longis obtusiusculis, pinnis a parte media versus apicem in caudam angustam profunde serratam sensim productis; soris circa 12 quoque latere nervi medii pinnæ, a nervo versus marginem angulo patente (nec valde obliquo) tendentibus, sed dentes marginis non intrantibus latis brunneis sese fere tangentibus parallelis; textura papyraceo-herbacea, nervulis occultis.

Habit of *A. bisectum* Sw., but pinnæ broader (more resembling those of *A. protensum* Schrad.) and not incised-pinnatifid but simply and regularly serrated. Very peculiar by the very close large sori, occupying the undivided part of the pinnæ. Differing from *A. falcatum* and *protensum* by the long cauda of the pinnæ.

✓Nebáj, Depart. Quiché, Guat., alt. 7,000^{ft}, May 1891, Heyde & Lux, no. 4,678.

✓**ASPLENIUM SHEPHERDI** Spreng., var. **bipinnatum** H. Christ.—Differt magnitudine dupla vel tripla typi, pinnis 9^{cm} distantibus, perfecte bipinnatis nec bipinnatifidis, pinnulis pinnarum solutis 1.5 ad 2^{cm} distantibus, margine inferiori decurrentibus, sed interstitio libero. Infra apicem pinnatifidam pinnæ adsunt circiter 8 harum pinnularum solutarum quoque latere.

✓Volcan Tecuamburro, Depart. S. Rosa, Guat., alt. 6,000^{ft}, Febr. 1893, Heyde & Lux, no. 4,680.

Nephrodium nigrovenium H. Christ, (§ LASTRÆA); stipitibus pluribus ex apice caudicis oriundis (æque ac in *N. contermino* Desv.) 18^{cm} longis debilibus stramineis, cum rachi pilis subulatis nigris 2 ad 3^{mm} longis vestitis; fronde herbacea glabra obscure viridi infra vix pallidior triangulari-deltaidea 30^{cm} longa basi 8^{cm} lata versus apicem decrescente, infra apicem pinnatifidam 12 pinnis oppositis quoque latere instructa; pinnis infimis 9^{cm} longis 3^{cm} latis sessilibus lanceolatis acuminatis, in apicem subcaudatam productis, infra proxime versus nervum nigrum, sed non ad nervum ipsum incisis, supra ala mediali 3^{mm} lata remanente; lobis ligulato-falcatis 5^{mm} latis sese fere tangentibus manifeste et regulariter serrato-dentatis acutiusculis, nervulis quoque latere circiter 8 ad 10 distinctis, nigris,

simplicibus haud furcatis; soris circa 8 quoque latere exacte mediis inter nervum medialem et marginem lobi nervulis insidentibus, flavescentibus, minutis, 0.5^{mm} latis, indusio nimius fugaci.

A very peculiar species, well distinguished by its feeble size, deltoid shape, black venation and scales of the stipe, regularly denticulated large segments.

✓San Pedro Sula, Depart. S. Bárbara, Honduras, alt. 1,000^{ft}, Sept. 1887, C. Thieme, no. 5,646.

Baltimore, Md.

EXPLANATION OF PLATE XXXVI.

Passiflora porphyretica Mast.—Ramuli floriferi cacumen, et folium magnitudine naturali. Stipula, bractea, sepalum, petalum, necnon flos in sectione mediana verticali visus bis aucti.